

Female Veterans of Iraq and Afghanistan Seeking Care from VA Specialized PTSD Programs: Comparison with Male Veterans and Female War Zone Veterans of Previous Eras

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Abstract

Background: Differences in the characteristics and mental health needs of female veterans of the Iraq/Afghanistan war compared with those of veterans of other wars may have useful implications for VA program and treatment planning.

Methods: Female veterans reporting service in the Iraq/Afghanistan war were compared with women reporting service in the Persian Gulf and Vietnam wars and to men reporting service in the Iraq/Afghanistan war. Subjects were drawn from VA administrative data on veterans who sought outpatient treatment from specialized posttraumatic stress disorder (PTSD) treatment programs. A series of analyses of covariance (ANCOVA) was used to control for program site and age.

Results: In general, Iraq/Afghanistan and Persian Gulf women had less severe psychopathology and more social supports than did Vietnam women. In turn, Iraq/Afghanistan women had less severe psychopathology than Persian Gulf women and were exposed to less sexual and noncombat nonsexual trauma than their Persian Gulf counterparts. Notable differences were also found between female and male veterans of the Iraq/Afghanistan war. Women had fewer interpersonal and economic supports, had greater exposure to different types of trauma, and had different levels of diverse types of pathology than their male counterparts.

Conclusions: There appear to be sufficient differences within women reporting service in different war eras and between women and men receiving treatment in VA specialized treatment programs for PTSD that consideration should be given to program planning and design efforts that address these differences in every program treating female veterans reporting war zone service.

Introduction

IN THE PAST DECADE, women have come to play an increasing role in the armed forces of the United States.^{1,2} The Department of Veterans Affairs (VA) has primary responsibility for addressing posttraumatic stress disorder (PTSD) and other psychiatric sequelae of war zone exposure among America's veterans.³ Accordingly, VA has been and continues to be alert to the increasing role of women by evaluating its treatment programs for sensitivity to the particular needs of female veterans.⁴⁻⁶ Previous studies have indicated that female veterans do not appear to face significant barriers to receiving mental health care in the VA,⁷⁻¹⁰ although on some aspects of inpatient care, they report lower satisfaction than

male veterans.⁹ In PTSD specialized outpatient care, however, female veterans report high satisfaction with care.¹¹ In all these studies, age and war era are adjusted for in multivariate models. Some comparisons of male and female veterans in VA treatment have found poorer health and social functioning among women than men.¹ However, there has not been a systemwide comparison of male and female veterans that has focused on those seeking help for PTSD.

Combat veterans have long received the highest priority for treatment and benefits and, therefore, have been of most concern to the VA. In the past two decades, roles for women in the military have expanded to include combat and combat support rather than just nursing and clerical duties. For this reason, we have focused on veterans who have served in a

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war zone for examination of how these newest veterans from Iraq and Afghanistan compare with veterans of other wars whom VA has been treating in ever increasing numbers in recent years.^{12,13} Comparison of characteristics and clinical needs of female veterans from the Iraq/Afghanistan war with those of female veterans of previous wars and with those of male veterans from Iraq/Afghanistan may have important implications for informing program and treatment planning. Similarities would suggest that treatment regimens like those that have been offered to female veterans of former wars or to male veterans might be appropriate for new female veterans, whereas dissimilarities would suggest that other treatment regimens might be needed for the new cohort.

Since the early 1990s, VA's Northeast Program Evaluation Center (NEPEC) has been responsible for monitoring the treatment of veterans in VA's specialized PTSD programs. In this study, we use administrative evaluation data to address two questions with regard to the women who have been seeking treatment from VA's specialized outpatient PTSD programs: (1) How similar or dissimilar are women from the war in Iraq and Afghanistan and women from previous wars with respect to demographic and clinical characteristics? (2) How similar or dissimilar are women from Iraq/Afghanistan and men from the same war.

To address the first question, we make both contemporaneous and noncontemporaneous comparisons among female veterans. First, we compare Iraq/Afghanistan women with women from the other wars as they are currently seeking treatment in specialized VA PTSD programs. This contemporaneous comparison thus considers women of different wars as they would be encountered by treatment staff at the present time.

A clear limitation of this analysis, however, is that it compares one group of women shortly after their return from overseas with other groups 15–45 years after their return. In a second set of analyses, therefore, we compare current Iraq/Afghanistan women with women from previous wars using assessment and outcome data from the early 1990s. This second set of noncontemporaneous analyses enables us to compare Iraq/Afghanistan women with a group of Persian Gulf women shortly after their return from war zone service and with Vietnam women who, although still 15–20 years past the time of their war zone service, were younger than they are at present. Previous studies have shown a significant increase in the prevalence of PTSD symptoms among some veterans over the first 2 years after war zone service¹⁴ and that the further removed in time veterans are from their war zone service, the greater is the contribution of current civilian stressors and supports to the prevalence of both PTSD symptoms and comorbid psychiatric disorders.¹⁵ Analyses to address the second question compare women who served in Iraq/Afghanistan with men from the same war.

Materials and Methods

Subjects

Subjects were drawn from the NEPEC's administrative database of veterans who have sought treatment from a VA outpatient specialized program for PTSD. We constructed our groups of veterans by hierarchically prioritizing their assignment to a war era starting with the present and working backward in time. First, female veterans were selected who

served in Iraq/Afghanistan, referred to as Operation Iraqi Freedom and Operation Enduring Freedom (OIF/OEF). Approximately 90% of the female OIF/OEF and 87% of the male OIF/OEF veterans served in Iraq, with the rest serving exclusively in Afghanistan. Then, women who served in the first Persian Gulf war (PER) but not in OIF/OEF were selected. Finally, those who served in the Vietnam war (VIET) but not in PER or OIF/OEF were selected. War zone service was determined by veterans' reports that they served in either the Vietnam, Persian Gulf, or OIF/OEF era and that they served in a war zone. In all, the sample of war zone female veterans included 59% of all women from the three war eras surveyed (95% of OIF/OEF, 39% of PER, 28% of VIET). Male veterans are included in only one analysis, and only those who reported service in OIF/OEF were selected (98% serving in a war zone).

These selection criteria were chosen so that veterans from all eras would have had war zone exposure and so that comparisons across war eras would be minimally affected as a result of overlap of war zone service in multiple wars. There was partial overlap between PER veterans and the OIF/OEF group that was unavoidable because of limitations in the data collection instrument. Four women and 240 men were excluded from the samples because of overlap between the VIET and PER groups.

Two cohorts were drawn for each analysis. A current, or contemporaneous, cohort was drawn from admission assessments conducted between April 1, 2004, and November 30, 2007. Analyses comparing women from the three war eras and women with men were conducted on this cohort. Sample sizes for the current cohorts of women are 1258 for OIF/OEF, 380 for PER, and 100 for VIET. For men, the sample size is 9998 for OIF/OEF.

The period February 1, 1992, to September 30, 1995, was selected for the earlier, or noncontemporaneous, cohorts of PER and VIET women used to compare female veterans across war eras. These samples were assessed 10–14 years before the current cohort. This earlier period was chosen to allow matching of the passage of time from the beginning of the respective wars to the time of assessment for PER and OIF/OEF women. Fortunately, the measures used then and now are largely the same. Samples that were drawn from this time period included 227 PER women and 71 VIET women.

Measures

Data were collected by clinicians at the time of intake for admission to outpatient treatment. A clinical interview was structured around a 3-page questionnaire, the PTSD Status Form. The data, then, are derived from self-reports as processed for applicability and accuracy by clinicians. Variables that address sociodemographic characteristics are age, years of education, ethnicity (as white, African American, Latino, or other ethnicity), marital status (as either married, separated/divorced, or never married), working at the time of admission to treatment, and past incarceration. All the sociodemographic variables are dichotomous except age (range 16–100) and education (range 1–26).

Five dichotomous variables represent veterans' exposure to traumatic events: receiving hostile/friendly fire, participating in atrocities, witnessing atrocities with no participation, sexual trauma encountered during active military duty, and

noncombat nonsexual trauma (e.g., training accidents) encountered in the course of military duties. Specific examples of atrocities were provided as "torturing prisoners, mutilating enemy bodies, or harming civilians." Data for sexual trauma and noncombat nonsexual trauma were not collected during the noncontemporaneous time period.

Clinical status variables include clinical diagnoses of PTSD, alcohol abuse/dependence, drug abuse/dependence, and four Axis I disorders other than PTSD: anxiety disorder, mood disorder (excluding bipolar disorder), bipolar disorder, and schizophrenia. Diagnoses were made clinically, and so strict uniformity of diagnostic criteria cannot be assumed. Measures of clinical status also documented the presence of current medical problems; a recent history of violent behavior; receiving VA disability compensation for PTSD, for a psychiatric disorder other than PTSD, or for a medical disorder; percent VA disability attributed to PTSD or other psychiatric disorder; and percent VA disability attributed to a medical disorder. All the clinical status variables are dichotomous except percent disability attributed to psychiatric (range 0–100) and medical (range 0–100) disorders.

Data analysis

Data analysis was conducted by analyses of covariance (ANCOVA), controlling for veterans' age and program site. There were 105 sites in the noncontemporaneous dataset and 86 in the contemporaneous dataset. For comparisons across war eras, the same sample of OIF women was used in both the contemporaneous and noncontemporaneous analyses with PER and VIET women. Only contemporaneous samples were used for the comparison of women and men. A significance level of 0.01 was selected for each pair of means because of the large number of comparisons.

The much larger size of the OIF/OEF sample compared with the PER and VIET samples and the much larger size of the male sample compared with the female sample posed a problem for analyses. An unweighted analysis in which the actual sample sizes were used would allow the VIET and male samples to have a disproportionate influence over the results of the comparisons that included them. To counter this possibility, we weighted the samples inversely according to their proportions in the total samples used in each analysis. This served to represent the relationships for each sample as they would be expected to be if the samples were of equal size. Weighting did not affect the degrees of freedom in testing the significance of the relationships or the calculation of the unadjusted means. Adjustment of the means for the covariates, however, did affect their calculation and accounts for differences in the values of the means for the OIF/OEF sample in the different analyses. The means for dichotomous variables can be read equivalently as proportions.

Finally, because of the historical spacing of the wars, there are invariably substantial differences in age among the cohorts, although less in the noncontemporaneous set of analyses than in the contemporaneous set. Age has been found to have a widespread influence on the prevalence of psychiatric symptoms, substance abuse, and social functioning in the population in general^{16,17} and among male veterans specifically.¹⁸ Therefore, in order to limit the extent to which cohort dissimilarities might be simply attributable to age, we control for age throughout all ANCOVAs.

Results

Iraq/Afghanistan women vs. Persian Gulf and Vietnam women: Contemporaneous comparisons

The ANCOVAs for contemporaneous samples, controlling for program site and age, show significant differences among women of different war eras for most of the variables (see Table 1). Not surprisingly, there are numerous socio-demographic differences among the war era cohorts, the most notable being age, with OIF/OEF women being youngest, VIET women oldest, and PER women falling between the other two cohorts. Ethnically, the OIF/OEF and PER eras include proportionally fewer white women and more African American women than the VIET era. In terms of marital status, OIF/OEF and PER women are more likely to be separated/divorced and less likely to have never married than women from the VIET era. OIF/OEF women also appear to be more socially integrated than women from the other war eras, as they are more often working and have been incarcerated less often than women from either the PER or VIET eras.

Women differed significantly in their exposure to trauma in the war zone depending on their era of service. OIF/OEF and VIET women reported proportionally more exposure to hostile/friendly fire than PER women, although exposure was high in all of these help-seeking groups. OIF/OEF and PER women, however, reported less participation in atrocities than VIET women. OIF/OEF women reported less sexual trauma than PER and VIET women and less noncombat nonsexual trauma than PER women.

With regard to clinical status, OIF/OEF and PER women were diagnosed with PTSD and alcohol abuse/dependence less often than were VIET women. For the diagnosis of drug abuse/dependence, OIF/OEF women were lowest of the war eras, with PER women intermediate and VIET women highest. With respect to comorbid Axis I disorders, OIF/OEF women were diagnosed less often with bipolar disorder than PER women, and PER women were diagnosed less often with schizophrenia than VIET women. In addition, OIF/OEF women reported more violent behavior than VIET women.

Women from the three eras differed significantly in the proportion who were service connected for PTSD, with OIF/OEF women lowest, PER women intermediate, and VIET women highest. Among the proportion service connected for PTSD, OIF/OEF women had lower disability ratings for psychiatric disorders than either PER or VIET women. Fewer OIF/OEF women had medical problems compared with PER women. Consistent with this finding, PER women were more likely to be service connected for medical disorders than women from the other eras, although among those service connected, there were no significant differences in the disability ratings.

Iraq/Afghanistan women vs. Persian Gulf and Vietnam women: Noncontemporaneous comparisons

The effect of matching the time lag from the beginning of hostilities to the presentation for treatment among the OIF/OEF and PER women is presented for noncontemporaneous samples at right in Table 1. Significant differences between OIF/OEF and PER women in noncontemporaneous comparisons are also found to be significant in the contemporaneous comparisons on only 4 of 12 measures. As in the

TABLE 1. ADJUSTED MEANS FOR COMPARISONS OF IRAQ/AFGHANISTAN (OIF/OEF) WOMEN VS. PERSIAN GULF AND VIETNAM WOMEN, CONTROLLING FOR SITE AND AGE

	Current (Contemporaneous)						Earlier (Noncontemporaneous)							
	OIF/OEF	PER	VIET	OIF/OEF vs. PER	OIF/OEF vs. VIET	PER vs. VIET	p*	OIF/OEF	PER	VIET	OIF/OEF vs. PER	OIF/OEF vs. VIET	PER vs. VIET	p*
Number	1258	380	100					1258	227	71				
Age ^a	32.50	42.33	60.07	x	x	x	0.0001	32.50	34.46	49.46	x	x	x	0.0001
White	0.54	0.57	0.83		x	x	0.0001	0.56	0.66	0.96	x	x	x	0.0001
African American	0.32	0.31	0.01		x	x	0.0001	0.29	0.23	0.00		x	x	0.0001
Latino	0.09	0.08	0.09				ns	0.09	0.06	0.00		x		0.0200
Other ethnicity	0.05	0.04	0.07				ns	0.06	0.05	0.04				ns
Education	13.66	13.55	13.29				ns	13.56	13.94	13.92	x			0.0200
Married	0.28	0.33	0.37				ns	0.26	0.30	0.30				ns
Separated/divorced	0.32	0.34	0.02		x	x	0.0001	0.30	0.35	0.14		x	x	0.0001
Never married	0.39	0.32	0.60		x	x	0.0001	0.44	0.33	0.58	x	x	x	0.0001
Working at admission	0.57	0.44	0.26	x	x	x	0.0001	0.58	0.59	0.36		x	x	0.0001
Incarcerated (lifetime)	0.06	0.11	0.16	x	x		0.0030	0.05	0.03	0.14		x	x	0.0001
Received fire	0.89	0.68	0.86	x		x	0.0001	0.89	0.74	0.90	x		x	0.0001
Participated in atrocities	0.03	0.03	0.08		x	x	0.0005	0.02	0.01	0.05		x	x	0.0400
Witnessed atrocities	0.15	0.10	0.19			x	0.0050	0.12	0.16	0.22		x		0.0400
Sexual trauma	0.19	0.45	0.39	x	x		0.0001							
Noncombat nonsexual trauma	0.14	0.23	0.12	x		x	0.0001							
PTSD diagnosis	0.78	0.80	0.91		x	x	0.0100	0.79	0.63	0.74	x			0.0001
Alcohol abuse/depression diagnosis	0.11	0.12	0.25		x	x	0.0003	0.11	0.19	0.37	x	x	x	0.0001
Drug abuse/depression diagnosis	0.03	0.08	0.19	x	x	x	0.0001	0.03	0.12	0.24	x	x	x	0.0001
Anxiety disorder (other than PTSD)	0.16	0.19	0.20				ns	0.17	0.23	0.09			x	0.0003
Mood disorder (excluding bipolar)	0.38	0.43	0.40				ns	0.42	0.50	0.35		x	x	0.0030
Bipolar disorder	0.03	0.07	0.08	x			0.0020	0.02	0.06	0.14	x	x	x	0.0001
Schizophrenia	0.01	0.01	0.03			x	0.0100	0.00	0.02	0.05		x	x	0.0002
Medical problem	0.52	0.63	0.58	x			0.0009	0.49	0.57	0.43		x	x	0.0030
Violent behavior	0.13	0.17	0.25		x		0.0090	0.13	0.30	0.32	x	x	x	0.0001
Service connected PTSD	0.18	0.25	0.37	x	x	x	0.0002	0.15	0.11	0.42		x	x	0.0001
Service connected other psychiatric disorders	0.07	0.11	0.07				0.0500	0.08	0.02	0.07	x			0.0030
Service connected medical	0.35	0.51	0.27	x		x	0.0001	0.37	0.31	0.26				ns
Psychiatric disability (%)	39.47	50.67	61.32	x	x		0.0008	37.84	34.96	39.77				ns
Medical disability (%)	30.69	30.97	23.18				ns	30.19	19.42	28.02	x			0.0020

*Significance level of overall ANCOVA. x, pair of means significantly different at $p < 0.01$. All variables are dichotomous except age, education, psychiatric disability, and medical disability, which are continuous.

^aControlling for site.

PER, Persian Gulf; VIET, Vietnam; PTSD, post traumatic stress disorder; OIF, Operation Iraqi Freedom; ANCOVA, analyses of covariance.

contemporaneous comparisons, in the noncontemporaneous comparisons, OIF/OEF women were younger, received more hostile/friendly fire, and were less often diagnosed with drug abuse/dependence and with bipolar disorder than PER women. However, for most of the significant comparisons, results differed after matching for the time lag. Unlike the contemporaneous analyses, in the noncontemporaneous comparisons, OIF/OEF women were significantly less often white, had less education, and were more often never married, more often diagnosed with PTSD, but less often diagnosed with alcohol abuse/dependence than PER women. OIF/OEF women were also significantly less likely to report violent behavior, were more often service connected for psychiatric disorder(s) other than PTSD, and received higher medical disability ratings than PER women. VIET women, on the other hand, were more likely than OIF/OEF and PER women to be diagnosed with bipolar disorder or schizophrenia.

In contrast, the significant differences between OIF/OEF and VIET women in contemporaneous comparisons are also found to be significant in the noncontemporaneous comparisons on 11 of 15 measures, many of which show better adjustment for OIF/OEF women. The 11 measures on which significant differences were repeated include the younger age of OIF/OEF women; lesser likelihood of being white; greater likelihood of African American ethnicity, of being separated or divorced or never married; greater likelihood of working at the time of admission to treatment; and lesser likelihood of incarceration during their lifetime, as well as of past alcohol and drug abuse/dependence. In addition, OIF/OEF women are less likely to be diagnosed with bipolar disorder or schizophrenia and have less frequent violent behavior and lower likelihood of being service connected for PTSD than VIET women.

Iraq/Afghanistan women vs. men

Comparisons between OIF/OEF women and men were conducted by ANCOVA exclusively for contemporaneous samples (see Table 2). For these analyses, probability values for the differences between the means are the same as for the ANCOVAs themselves. There are significant differences by gender for 21 of the total of 30 characteristics. The characteristics not showing a significant difference were white and other ethnicity, education, separation/divorce, exposure to atrocities whether participating or witnessing, drug abuse/dependence, schizophrenia, and rating of psychiatric disability.

Among the significant differences were those for ethnicity, with women being proportionally more likely to be African American and men more likely to be Latino. Marital status was another prominent differentiator, with women being married less often and never having been married more often. Proportionally fewer women were working at admission, had been incarcerated at some time during their lifetime, had engaged in violent behavior, or had received hostile/friendly fire. Women, however, were likely to report more military sexual trauma and noncombat nonsexual trauma than men. Women were diagnosed less often with PTSD and alcohol abuse/dependence and more often with other Axis I disorders (anxiety disorder, mood disorder aside from bipolar disorder, and bipolar disorder) and were more often service connected

TABLE 2. ADJUSTED MEANS FOR COMPARISONS OF IRAQ/AFGHANISTAN WOMEN VERSUS MEN, CONTROLLING FOR SITE AND AGE

	Women	Men	p*
Number	1258	9998	
Age ^a	32.50	33.05	0.0020
White	0.64	0.65	ns
African American	0.21	0.18	0.0030
Latino	0.09	0.11	0.0004
Other ethnicity	0.07	0.06	ns
Education	12.90	13.00	ns
Married	0.13	0.55	0.0001
Separated/divorced	0.18	0.19	ns
Never married	0.68	0.26	0.0001
Working at admission	0.51	0.62	0.0001
Incarcerated (lifetime)	0.08	0.14	0.0001
Received fire	0.92	0.96	0.0001
Participated in atrocities	0.04	0.05	ns
Witnessed atrocities	0.13	0.14	ns
Sexual trauma	0.24	0.02	0.0001
Noncombat nonsexual trauma	0.12	0.06	0.0001
PTSD diagnosis	0.77	0.80	0.0030
Alcohol abuse/dependence diagnosis	0.14	0.22	0.0001
Drug abuse/dependence diagnosis	0.06	0.07	ns
Anxiety-disorder (other than PTSD)	0.16	0.12	0.0001
Mood disorder (excluding bipolar)	0.37	0.29	0.0001
Bipolar disorder	0.03	0.02	0.0006
Schizophrenia	0.01	0.01	ns
Medical problem	0.34	0.52	0.0001
Violent behavior	0.18	0.22	0.0001
Service connected PTSD	0.14	0.16	0.0050
Service connected other psychiatric disorders	0.07	0.05	0.0002
Service connected medical	0.26	0.38	0.0001
Psychiatric disability (%)	38.44	37.37	ns
Medical disability (%)	22.38	29.78	0.0001

*Significance level of overall ANCOVA. All variables are dichotomous except age, education, psychiatric disability, and medical disability, which are continuous.

^aControlling for site.

for psychiatric disorder(s) other than PTSD. Finally, women were less often service connected for medical disorder(s) than men and had lower medical disability ratings.

Discussion

Many differences exist between Iraq/Afghanistan and Persian Gulf women on the one hand and Vietnam women on the other. Both Iraq/Afghanistan and Persian Gulf women were less likely to be white and more likely to be African American, more likely to be separated or divorced and less likely to have never been married, more likely to be employed at admission, reported less participation in atrocities, were diagnosed less with alcohol abuse/dependence or drug abuse/dependence, and were less often service connected for PTSD than Vietnam women. To some extent, these differences may represent more aggressive recruitment of women by the

armed forces, providing a wider range of roles for women and a greater availability of benefits that are appealing to single and minority women in particular. Generational differences may also be represented, particularly with regard to substance use.^{1,19}

The similarities between Iraq/Afghanistan and Persian Gulf women notwithstanding, there are also notable differences between women from these wars as well. Women who served in Iraq/Afghanistan report less sexual trauma and less noncombat nonsexual trauma than Persian Gulf women. These differences might reflect greater efforts to counter sexual abuse in the military²⁰ and more extensive training of women for combat and combat support roles.²¹ Women who served in Iraq/Afghanistan also have less pathology than Persian Gulf women, particularly with regard to drug abuse/dependence, comorbid disorders overall, and medical problems. This is true in the case of both the noncontemporaneous and contemporaneous samples. These differences are thus not likely to be due simply to differences in the time lag between the end of war zone exposure and the seeking of treatment for these two eras of female veterans. It is possible that the large increase in the number of reserve and National Guard troops in the Iraq/Afghanistan era (30%–35% of deployed troops²²) contributes to these differences. Reserve/National Guard troops may have included more college students and more soldiers who were employed as civilian professionals before their deployment, and if such characteristics were associated with better health and lower risk of mental health problems in comparison to active duty troops, this may account for the overall better health of Iraq/Afghanistan women. Another possibility is that there may have been different proclivities for seeking treatment among women from different war eras. These proclivities may reflect cultural changes that are independent of individual characteristics or the nature of traumatic exposure. However, this is only speculative, and greater inquiry into the reason(s) for the differences might be fruitful in suggesting different emphases in treatment for the two groups of women.

In other instances, however, it may be important to take the time lag between war zone exposure and treatment seeking into account. For example, Iraq/Afghanistan and Persian Gulf women were diagnosed with PTSD and alcohol abuse/dependence less often than were Vietnam women. It is possible that the greater time lapse between war exposure and presentation for treatment causes greater risk for subsequent events to result in the development of comorbidities secondary to PTSD. The persistence of dissimilarities between Iraq/Afghanistan and Vietnam women across time lags is another instance. These dissimilarities may persist because the lags since war zone service are still substantial, whereas the same dissimilarities between Iraq/Afghanistan and Persian women are substantially reduced because the matching leads to greater equivalence in the elapsed time since war zone service. Put differently, the time lags for Vietnam women might have been large enough that both contemporaneous and noncontemporaneous comparisons represent the difference between the acute presentation of Iraq/Afghanistan women shortly after war zone service and a chronic process in Vietnam women. If this is the key distinction, the lower proportion of the same dissimilarities for the noncontemporaneous Iraq/Afghanistan vs. Persian Gulf comparisons might reflect the evolution of a chronic illness.

Comparisons of Iraq/Afghanistan women and men reveal several differences that might be useful in planning treatment interventions for women and men. It is apparent that women and men experience different levels of risk for several types of trauma. Women are somewhat less likely to have been exposed to hostile or friendly fire, but they are substantially more likely to have been exposed to both sexual trauma and noncombat nonsexual trauma. These differences in exposure are accompanied by gender differences in pathology. Women are less frequently diagnosed with PTSD, alcohol abuse/dependence, and medical problems than men, results that are very similar to those of other studies of female veterans.^{2,6} Women, however, are more frequently diagnosed with anxiety disorder(s) other than PTSD and mood disorders. The gender difference in mood disorders has been found more generally in epidemiological studies as well.²³ Finally, it is noteworthy that women serving in Iraq/Afghanistan appear to have less extensive social supports than their male counterparts, as indicated by their greater likelihood of being unmarried and, economically, in terms of lesser employment. These gender differences are quite consistent with those found by other VA-based investigators.¹ Taken as a whole, these differences may be sufficiently important to argue for the consideration of whether there should be separate programs for women or, within mixed gender programs, the institution of separate treatment modules for women.

It is important to call attention to three limitations of our study. The first is that the samples were not drawn randomly from the veteran population. Rather, they were convenience samples of veterans who sought treatment in specialized PTSD programs within the VA. The generalizability of our results to the thousands of veterans treated for PTSD in general VA mental health programs, in primary care programs, or outside of VA treatment programs altogether is unknown. The national scope of our samples, in contrast, is a strength that contributes to the stability of the findings.

The second limitation is that many veterans of the Iraq/Afghanistan era in our samples came primarily from the first cohort of troops who fought in the Iraq war. The samples thus underrepresent veterans who served during the most intense phase of the insurgency or veterans who served multiple tours. There are indications that veterans who served multiple tours are at greater risk for mental health problems and perhaps for more severe problems.^{24,25} It is unknown, therefore, how later troops might compare with earlier ones, and a full examination of this possibility presents an important task for future study.

Third, whereas our samples represent the majority of veterans seen by outpatient specialized PTSD programs in the VA, they do not and are not intended to represent a cross-section of all veterans seen by these programs. Our purpose in this study has been to examine different war eras for similarities and differences among veterans who served in war zones in those eras. Missing are a few veterans who had war zone service in more than one war era and all veterans who had no war zone service. The latter group of veterans comprised 55% of the total number of women compared with only 9% of the total number of men surveyed. Forty-five percent of the women and 35% of the men who did not serve in a war zone served solely in the post-Vietnam era between the Vietnam and Persian Gulf wars.

Conclusions

This study surveys female veterans receiving treatment in VA specialized programs for PTSD who reported war zone service in Iraq/Afghanistan, the first Persian Gulf war, or Vietnam. Female veterans who reported service in Iraq/Afghanistan and the first Persian Gulf war had less severe psychopathology and more social supports than female veterans who reported service in Vietnam. Female veterans who reported service in Iraq/Afghanistan, in turn, had less severe psychopathology than those who reported service in the first Persian Gulf war and were less likely to be exposed to sexual and noncombat nonsexual trauma than their Persian Gulf counterparts. In comparisons solely of female and male veterans reporting service in Iraq/Afghanistan, women had fewer interpersonal and economic supports, were exposed to different types of trauma, and had different types of psychopathology than men. Consideration should be given to therapeutic interventions that address these differences in programs that treat female veterans reporting war zone service.

Disclosure Statement

The authors have no conflicts of interest to report.

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